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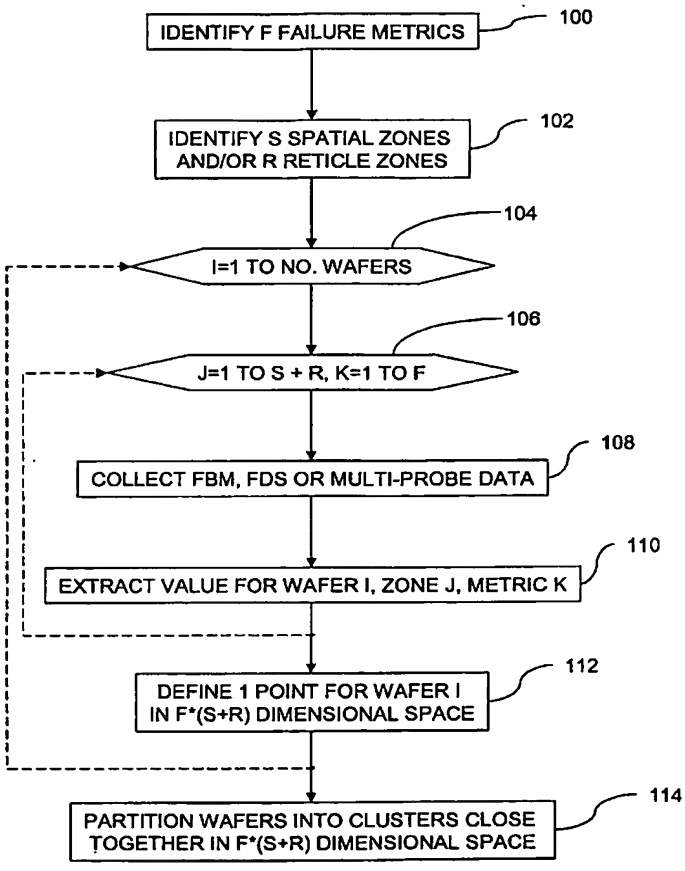
(54) Title: METHOD AND SYSTEM FOR FAILURE SIGNAL DETECTION ANALYSIS



(57) Abstract: A method for analyzing a sample of wafers includes identifying F failure metrics applicable to at least one pattern on each wafer within the sample. Z spatial and/or reticle zones are identified on each wafer, where Z and F are integers. Values are provided for each failure metric, for each zone on each wafer. A point is defined for each respective wafer in an N-dimensional space, where N=F*Z, and each point has coordinates corresponding to values of the F failure metrics in each of the Z zones of the corresponding wafer. The sample of wafers is partitioned into a plurality of clusters, so that the wafers within each clusters are close to each other in the N-dimensional space. A plurality of clusters is thus identified from the sample of wafers so that within each individual cluster, the wafers have similar defects to each other.

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